

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today was  
not written for publication and is not binding precedent of  
the Board.

Paper No. 36

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES  
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Ex parte ROGER SPITZ,  
THIERRY SOTO, CLAUDE BRUN,  
and LAURENT DURANEL

Appeal No. 1997-2378  
Application 08/233,533

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ON BRIEF  
\_\_\_\_\_

Before HANLON, PAK, and WALTZ, Administrative Patent Judges.  
HANLON, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134  
from the final rejection of claims 25 and 27, all of the  
claims pending in the application. Claim 25 is directed to

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polyhedron-shaped polypropylene particles, and claim 27 is  
directed to polypropylene particles produced using polyhedron-  
shaped MgCl<sub>2</sub> support particles. Claims 25 and 27 read as  
follows:

25. Polypropylene consisting essentially of particles  
having a breadth of granulometric distribution expressed as  
 $D_{90}$  lower than 15, wherein said particles have the form of essentially  
regular polyhedrons with six or eight faces in which the  
paired symmetrically opposite faces are essentially parallel,  
two of which faces are large and elongated and form the top  
face and the bottom face of a polyhedron and have the form of  
a hexagon or of a lozenge such that on each of them the  
longest diagonal (D) is larger than the shortest distance (d)  
separating two opposite sides, which large elongated faces are  
surrounded essentially perpendicularly by the other  
essentially rectangular faces that form the sides of the said  
polyhedron wherein the ratio D/d of the majority of particles  
is between 2 and 7.

D10  
27. A polypropylene powder consisting essentially of  
particles having a breadth of granulometric distribution  
expressed as  $D_{90}$  lower than 15 and obtained by the  
polymerization  
D10  
of propylene reproducing in a homothetic manner the shape of  
the particles of the support in the presence of a catalyst  
system consisting essentially of (1) particles of an MgCl<sub>2</sub>,  
support impregnated by a halogenated titanium, vanadium,  
zirconium, or hafnium compound, wherein said particles have  
the form of essentially regular polyhedrons with six or eight  
faces in which the paired symmetrically opposite faces are  
essentially parallel, two of which faces are large and  
elongated and form the top face and the bottom face of a  
polyhedron such that on each of them the longest diagonal (D)  
is larger than the shortest distance (d) separating two  
opposite sides, which large elongated faces are surrounded

essentially perpendicularly by the other essentially rectangular faces that form the sides of the said polyhedron, the length of the smaller side (e) of each of the said essentially rectangular faces being less than the shortest distance (d) separating the two opposite sides of the large elongated faces and (2) a cocatalyst consisting essentially of an organoaluminum compound, wherein the ratio D/d of the particles is between 2 and 7.

The following rejections are at issue in this appeal:

- (1) Claims 25 and 27 are rejected under 35 U.S.C. § 112, first paragraph, based on written description.
- (2) Claim 27 is rejected under 35 U.S.C. § 112, first paragraph, based on enablement.
- (3) Claim 27 is rejected under 35 U.S.C. § 102(e) as being anticipated by Bailly et al.<sup>1</sup>

Rejections under 35 U.S.C. § 112

Claims 25 and 27 are rejected under 35 U.S.C. § 112, first paragraph, based on written description. According to the examiner, the specification, as originally filed, fails to provide descriptive support for polyhedron-shaped polypropylene particles as recited in claim 25 (Answer, p. 2):

Nowhere in the specification does it state that the polypropylene of the invention has the characteristics described by this claim [(claim 25)] (except for the granulometric distribution). Likewise, according to the examiner, the specification, as originally filed, fails to describe the shape of the

polypropylene particles produced using polyhedron-shaped MgCl<sub>2</sub>, support particles as recited in claim 27 (Answer, p. 5):

[T]here is no support in the specification for the subject matter of the phrase "reproducing (in a homothetic manner the shape of the particles) of the support".

Here, again, there is no use of this phrase or any similar phrase to describe the polypropylene produced by the claimed process. Further, there is nothing in the process limitations that would inherently require it to produce polypropylene having the shape of the magnesium dichloride or catalyst precursor.

Appellants rely on portions of the specification, an article by Kang et al.<sup>2</sup> and a DECLARATION UNDER 37 CFR 1.132

<sup>1</sup>Kyung-Suk Kang et al., "Effect of Internal Lewis Bases on Recrystallized MgCl<sub>2</sub>-TiCl<sub>4</sub> Catalysts for Polypropylene," 40 Journal of Applied Polymer Science, 1303 (1990). This article is of record in the application and is attached to the AMENDMENT AFTER FINAL REJECTION (Paper No. 27). Although it appears that this amendment was not entered by the examiner, we note that the article was further relied upon by appellants.

<sup>2</sup>U.S. Patent No. 5,208,109 granted May 4, 1993, to Bailly et al. Hereinafter the Bailly et al. patent will be referred to as "Bailly."

of Claude Brun and Laurent Duranel dated March 11, 1994, to establish descriptive support in the specification, as originally filed, for the claim language at issue. See Brief, pp. 4-5.

We agree with the examiner that the specification alone

fails to provide descriptive support for the language at issue in claims 25 and 27. For instance, at page 2, lines 8-10 of the specification, the catalytic components, not the olefins as argued by appellants, are said to preserve the morphology of the support. See Brief, p. 4, lines 5-8 and 20-22. Nevertheless, the specification in combination with the Kang article and the declaration of Brun and Duranel establish that the specification, as originally filed, provides the necessary descriptive support.

Appellants rely on the declaration of Brun and Duranel to establish that a polyhedron-shaped MgCl<sub>2</sub> support necessarily produces polyhedron-shaped polypropylene particles (Brief, p. 5) :

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Equally importantly, the Board's attention is directed to the Declaration submitted in the prior parent application, with the amendment of March 11, 1994. Therein the procedure of Example 14 of the instant application was followed and a photograph submitted of the polypropylene particles obtained by the polymerization as carried out in this example. These particles, as shown by that Declaration, have the polyhedron shape of the support.

See *Pingree v. Hull*, 518 F.2d 624, 627, 186 USPQ 248, 251 (CCPA 1975) ("claims with no express disclosure must find inherent support in the original application"); *Behr v. Talbott*, 27 USPQ2d 1401, 1407 (Bd. Pat. App. & Int. 1992) (the written description requirement can be satisfied by showing that the disclosed subject matter inherently or necessarily satisfies the limitation in question).

Appellants further rely on the Kang article to establish that "those skilled in this art know that polymers replicate the shape of the catalytic support" (Brief, p. 4). The Kang article is directed to the use of TiCl<sub>4</sub> catalysts supported on MgCl<sub>2</sub> to produce polypropylene. Specifically, Kang discloses (p. 1310) :

#### Polymer Morphology

Both activity and texture of the catalyst affect the polymer morphology. The polymerization catalysts are well known to replicate their morphology into the polymer particles. In other

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in a REQUEST FOR RECONSIDERATION (Paper No. 29) which was considered by the examiner. See Paper No. 31. The article will hereinafter be referred to as the "Kang article."

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words, the catalyst particle acts as a template for growth of the polymer particle.<sup>12</sup> . . . [Emphasis added.]

"J. Boor, Jr., Ziegler-Natta Catalysts and Polymerization, Academic, New York, 1979.

The catalytic component of appellants' invention is said to have particles shaped as follows (Specification, pp. 13-14):

The catalytic component obtained from the MgCl<sub>2</sub>, in accordance with the invention is also constituted of particles which have, when viewed under a microscope, the form of essentially regular polyhedrons with six or eight faces in which the paired symmetrically opposite faces are essentially parallel, two of which faces are large and elongated and form the top face and the bottom face of a polyhedron such that on each of them the longest diagonal (D) is larger than the shortest distance (d) separating two opposite sides, which large elongated faces are surrounded essentially rectangular perpendicularly by the other essentially rectangular faces that form the sides of the said polyhedron . . .

The ratio D/d of the catalytic component particles is said to be from 2 to 7. See Specification, p. 14, lines 20-25.

Therefore, based on the record before us, it is reasonable to conclude that one having ordinary skill in the art would have understood that the specification, as originally filed, describes the invention of claims 25 and 27. See Nang Lab., Inc. v. Toshiba Corp., 993 F.2d 858, 866, 26

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USPQ2d 1767, 1774 (Fed. Cir. 1993) ("A patent specification is directed to one of ordinary skill in the art."). The rejection of claims 25 and 27 under

35 U.S.C. § 112, first paragraph, based on written description, is reversed.

As for the rejection of claim 27 under 35 U.S.C. § 112, first paragraph, based on enablement, the examiner maintains

(Answer, p. 4):

Since these claims are [sic, this claim is] in product-by-process language, it is believed that the process limitations should contain the limitations necessary to produce polypropylene having the claimed shape, i.e., "polypropylene powder . . . obtained by the polymerization of propylene reproducing in a homothetic manner the shape of the particles of the support."

For the reasons set forth above, we find that the claim "contains[s] the limitations necessary to produce polypropylene having the claimed shape." Therefore, the rejection of claim 27 under 35 U.S.C. § 112, first paragraph, based on enablement is also reversed.

Rejection under 35 U.S.C. § 102(e)

Claim 27 is rejected under 35 U.S.C. § 102(e) as being anticipated by Bailly. Bailly discloses a process for

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Polymerizing alpha-olefins using a Ziegler catalyst system.  
According to the process disclosed in Bailly, prepolymer particles preserve the shape of the catalyst and polymers obtained therefrom occur in the form of a powder. However, in contrast to the claimed invention, the support and catalyst disclosed in Bailly are in the form of spheroidal particles.

Based on the record before us, one having ordinary skill in the art would have expected the polypropylene particles of Bailly to be spheroidal in shape. The examiner recognizes as much. See Answer, p. 5 ("the polypropylene of Bailly is probably spherical in shape"). For this reason, the rejection of claim 27 under 35 U.S.C. § 102(e) is reversed.

The decision of the examiner is reversed.

REVERSED

Adriene Lepiane Hanlon  
Administrative Patent Judge  
)  
Chung K. Pak  
Administrative Patent Judge  
)  
Thomas A. Waitz  
Administrative Patent Judge  
)  
BOARD OF  
PATENT  
) APPALS AND  
) INTERFERENCES  
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